

Flea and Tick Collars are Hazardous to Humans

For Servicemembers and Their Families

Important Facts

- Wearing animal flea and tick collars next to the skin or on boots or clothing may cause illness and should not be used by people.
- Some packages sent to deployed servicemembers contain animal flea and tick collars. Some servicemembers reportedly wear these products over their clothes or next to their skin to repel or kill insects.
- Animal flea and tick collars contain a wide variety of chemicals (such as pesticides) that may cause severe skin reactions and have the potential to poison people.
- The Department of Defense (DoD) Insect Repellent System is the safest, most effective way to protect against biting insects that may carry disease.

How do animal flea and tick collars cause illness in humans?

Sweat can draw chemicals from flea and tick collars in large quantities, even right through fabrics and boot materials. This can result in direct skin damage (like the burns seen in the photograph below) or possible damage to internal organs if the chemicals are absorbed through the skin's pores.



Figure: Result of wearing animal flea and tick collars on the outside of clothing.
Source: USACHPPM

Why are animal flea and tick collars safer for dogs and cats?

Flea and tick collars are not as hazardous for dogs and cats because these animals do not sweat. Even so, flea and tick collars can be harmful to animals if not used in strict accordance with label directions and precautions. For example, chemical burns may result on dogs and cats if the collars are tightened too tightly.

Why is it important for servicemembers to protect themselves from insects and other arthropods?

Some examples of insects and other arthropods that may cause disease, nuisance problems, or direct injury are: mosquitoes, ticks, fleas, mites, lice, kissing bugs, biting midges, sand flies, tsetse flies, black flies, horse and deer flies, stable flies, filth flies, bot flies, bees, wasps, ants, spiders, and scorpions.

Many insects and other arthropods are disease threats to servicemembers, particularly in some parts of Asia, the Middle East, North Africa, and South America. Some of these diseases can be quite serious and in some cases may be life-threatening.

- Mosquitoes transmit three of the most serious vector-borne diseases that threaten U.S. forces: malaria, dengue fever, and viral encephalitis.
- Sand flies transmit other diseases of military importance such as sand fly fever and leishmaniasis.
- Ticks can also transmit a broad range of disease-causing organisms including those that cause tick-borne encephalitis, Lyme disease and Rocky Mountain spotted fever.

What is the best way to protect servicemembers from insects and other arthropods?

The best and safest way to prevent disease caused by insects and other arthropods is to use the DoD Insect Repellent System. This system is required by DoD Policy.



What is the DoD Insect Repellent System?

The DoD Insect Repellent System is a multi-step approach that uses permethrin, which is applied only to clothing, and DEET, which is applied to exposed skin. When combined with other preventive measures such as avoiding insects and using permethrin-treated bed nets, this system provides maximum, safe protection from bites by insects and other arthropods such as ticks.

What is Permethrin?

Permethrin kills or repels most insects (and other arthropods such as ticks) upon contact on the uniform fabric and bed nets and is the most important means of protection. Do **not** apply permethrin to skin, undergarments, or uniform cap.

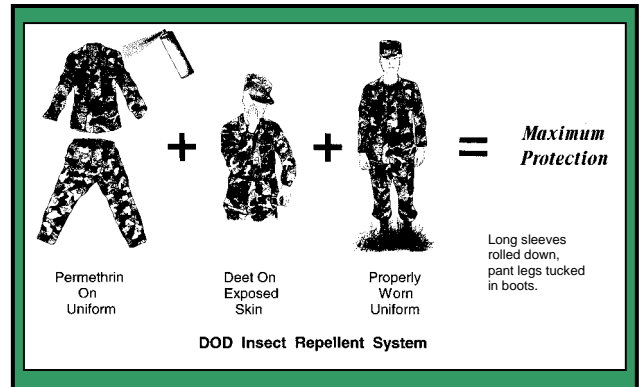
What is DEET?

DEET (chemical name, N,N-diethyl-meta-toluamide) is the most effective repellent against insects. Apply DEET to uncovered/exposed skin and under the ends of sleeves and pant legs. DEET can be used with sunscreen, but it may reduce the duration of effectiveness of the sunscreen. To minimize this effect, apply sunscreen approximately 30 minutes to 1 hour prior to applying the DEET so that the sunscreen has time to penetrate and bind to the skin first. Sunscreen does not reduce the effectiveness of the DEET.

The DoD Insect Repellent System Steps:

1. *Wear permethrin treated uniforms.* If not using uniforms pre-treated by the manufacturer with permethrin, treat uniforms (except for Nomex uniforms such as flight suits) with permethrin clothing repellent and allow them to dry **BEFORE** putting them on. Do **not** treat pre-treated uniforms. Two self-treatment options are available. The first option is to use the Impregnation Kit (NSN 6840-01-345-0237) to treat one uniform. The treatment lasts for the life of the uniform (at least 50 washes). The second option is to use the aerosol can of permethrin (NSN 6840-01-278-1336). Each can treats one uniform, and the treatment lasts through 5-6 washes.

2. *Wear the uniform properly.* Roll down shirt sleeves. Tuck pants into boots with the blousing cords drawn tight. Tuck undershirt into pants. These measures will help protect the skin from biting insects (such as sand flies).
3. *Apply DEET to exposed skin.* Apply a thin coat of long-lasting DEET insect repellent lotion (NSN 6840-01-284-3982) to all EXPOSED skin. One application lasts for up to 12 hours, depending on the climate and how much you perspire. Follow all label directions.



Other Methods for Protection against Insects

- Avoid insects. If possible, do not go outside during the times that insects most frequently feed (bite); in the case of mosquitoes and sand flies the risk is highest between dusk to dawn.
- Sleep/rest under a permethrin treated bed net.
- Do not use after-shave lotion, cologne, perfume, or scented deodorants/soaps while in the field. The odors may attract insects.
- Wash and inspect your body for insects and their bites daily, or as often as the tactical situation permits. Wash your uniform to remove insects and their eggs.

Where Do I Get More Information?

Air Force Institute for Operational Health (AFIOH)
Phone: (888) 232-3764
<http://www.brooks.af.mil/afioh/>

DOD Deployment Health Support Directorate (DHSD)
Phone: (800) 497-6261
<http://www.deploymentlink.osd.mil>

U.S. Army Center for Health Promotion and Preventive Medicine (USACHPPM)
Phone: (800) 222-9698
<http://chppm-www.apgea.army.mil>

DOD Deployment Health Clinical Center (DHCC)
Phone: (866) 559-1627
<http://www.pdhealth.mil/>

Navy Environmental Health Center (NEHC)
Phone: (757) 953-0700
<http://www-nehc.med.navy.mil>

Armed Forces Pest Management Board
Phone: (301) 295-7476
<http://www.afpmb.org>

